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EXAMINER	
SHAH, CHIRAG G	
ART UNIT	**PAPER NUMBER**
2616	

DATE MAILED: 05/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/702,142	PADOVANI ET AL.
	Examiner	Art Unit
	Chirag G. Shah	2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10/30/04* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 3/14/06 have been fully considered but they are not persuasive.

Applicant argues with respect to independent claims 1, 16, 17 and 22 that Proctor fails to teach or suggest generating or transmitting "pilot bursts." Applicant further argues that there is no motivation for one skilled in the art to combine Proctor and Seta, nor does the combination yields "generating at each transmission source a plurality of pilot bursts for a pilot reference; transmitting the plurality of pilot bursts in synchronization with the time reference..."

Examiner respectfully disagrees with the Applicant's allegation that Proctor fails to teach or suggest generating or transmitting "pilot bursts" and respectfully redirects Applicant to Proctor reference, specifically in col. 2, lines 31-45. Proctor clearly discloses in the respective section that the pilot channel may be thought of as a "beacon" transmitted that carries no information, constitutes a data signal having a predetermined pattern and timing relationships. Transmitting a plurality of pilot channel having predetermined patterns with timing relationships from base stations reads on transmitting the pilot bursts in synchronization. Since Proctor does not clearly identify what the predetermined pattern with timing relationship includes. Seta teaches of time synchronization method in CDMA system. Seta discloses in fig. 1 and in col. 3, lines 35-45 of a GPS Satellite constellation, which provides the base station controller with a GPS receiver for receiving reference time signal it generates. The base stations 2, 3, then receives from the base station controller a time reference for the communication system as

disclosed in col. 3, lines 35-45 and col. 6, lines 18-24. Seta further illustrates in fig. 1 and discloses in col. 4, lines 60 to col. 5, lines 7 of the base stations 2 and 3 communicating with each of the plurality of user terminal (cell/mobile telephones) deployed in the respective areas and are in synchronization/control of base station controller 1. Since, the base stations within the CDMA system as mentioned, receive timing references from the GPS satellite constellation via base station controller (BSC) clearly implies that each beacon (having timing relationship) that the base station generates/transmits is synchronized with the received timing reference (of the GPS Satellite). One is motivated as such in order to stipulate the phase offset of the pilot PN sequences, enabling reduction in co-interference among pilots and enabling a mobile terminal to identify and synchronize with the respective base station it is wirelessly connected to (Seta, col. 1, lines 24-54).

Applicant further argues that Blanchard does not teach transmission of pilot bursts. Examiner respectfully disagrees and respectfully redirects Applicant to Blanchard reference. Blanchard discloses of generating a plurality of pilot bursts for a pilot reference, wherein the pilot bursts are in synchronization with the time reference and transmit plurality of burst at predetermined time intervals [timing reference 1 allows each of the transmitters to transmit burst of data at precise time and for precise time intervals as disclosed in claims 1, 13 and in col. 2, lines 40-67, since, the transmitters have received signal of the timing references from the GPS constellation, this clearly implies that each burst (having timing relationship) that the base station transmits is synchronized with the received timing reference (of the GPS constellation)] and transmitting the plurality of pilot bursts form each transmission source are aligned in time at the

time of transmission [each of the N transmitters 2-6 transmit their information bursts of data to M receivers as denoted by reference number 8-12 as disclosed in col. 2, lines 65-67].

Applicant additionally argues with respect to claims 24, 33, or 36 that neither of the cited references, alone or in combination, teaches or suggests "receiving a pilot reference transmitted in pilot bursts that are synchronized with a time reference; and determining link condition based on the pilot reference. Applicant further argues that Examiner further fails to cite any teaching or suggestion in the references themselves that would motivate one skilled in the art to combine or modify the references.

Examiner respectfully disagrees and redirects Applicant to Proctor reference, specifically in col. 2, lines 31-45. Proctor clearly discloses in the respective section that the pilot channel may be thought of as a "beacon" transmitted that carries no information, constitutes a data signal having a predetermined pattern and timing relationships. Transmitting a plurality of pilot channel having predetermined patterns with timing relationships from base stations reads on transmitting the pilot bursts in synchronization. Since Proctor does not clearly identify what the predetermined pattern with timing relationship includes. Seta teaches of time synchronization method in CDMA system. Seta discloses in fig. 1 and in col. 3, lines 35-45 of a GPS Satellite constellation, which provides the base station controller with a GPS receiver for receiving reference time signal it generates. The base stations 2, 3, then receives from the base station controller a time reference for the communication system as disclosed in col. 3, lines 35-45 and col. 6, lines 18-24. Furthermore, Tanaka suggests in col. 2, lines 22-27 and fig. 3 of determining the link condition based on the received signal strength indicator and signal quality in accordance

to the base transmission signal received. The motivation is to efficiently carry out the handover when the mobile moves from one cell site to another.

Claim Objections

2. Claim 39 objected to because of the following informalities: "priori" is misspelled. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 3, 6-9, 15, 17, 19, and 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Proctor, Jr. et al (U.S. Patent No. 6,563,809), hereinafter referred as Proctor in view of Seta (U.S. Patent No. 6,483,825).

Regarding claim 1, Proctor discloses in **fig. 1 of a wireless CDMA communication system**, and discloses in **col. 2, lines 23-34 and in fig. 1** of a method for transmitting pilot references [**pilot channel-beacon**] from a plurality of transmission sources [**base stations 100-160**], the method comprising:

generating at each transmission source [**each base station of fig. 1 generates pilot channels such as a "beacon" as disclosed in col. 2, lines 23-34**] a plurality of pilot

bursts for a pilot reference **[each bases station generates a pilot channel having carrier phase and timing relationships as disclosed in col. 2, lines 31-36]**, and

transmitting the plurality of pilot bursts from each transmission source **[as disclosed in col. 2, lines 23-34, each base station transmits the pilot channels constituting a predetermined pattern].**

Proctor disclose that pilot channels include timing relationships, but *explicitly fails to disclose of receiving at each transmission source one or more signals indicative of a time reference for the communication system, which enables pilot bursts to be in synchronization with the time reference for transmitting of the pilot bursts.*

Seta teaches of time synchronization method in CDMA system. Seta discloses in **fig. 1 and in col. 3, lines 35-45 of a GPS Satellite constellation**, which provides the base station controller with a GPS receiver for receiving reference time signal it generates. **The base stations 2, 3, then receives from the base station controller a time reference for the communication system as disclosed in col. 3, lines 35-45 and col. 6, lines 18-24. Seta further illustrates in fig. 1 and discloses in col. 4, lines 60 to col. 5, lines 7 of the base stations 2 and 3 communicating with each of the plurality of user terminal (cell/mobile telephones) deployed in the respective areas and are in synchronization/control of base station controller 1.** Since, the base stations within the CDMA system as mentioned, receive timing references from the GPS satellite constellation via base station controller (BSC) clearly implies that each beacon (having timing relationship) that the base station generates/transmits is synchronized with the received timing reference (of the GPS Satellite).

Therefore, it would have been obvious to one of ordinary skills in the art to modify the teachings of Proctor to include the feature of base station receiving via BSC from the GPS satellite constellation reference time signal for enabling synchronization as taught by Seta. One is motivated as such in order to stipulate the phase offset of the pilot PN sequences, enabling reduction in co-interference among pilots and enabling a mobile terminal to identify and synchronize with the respective base station it is wirelessly connected to (Seta, col. 1, lines 24-54).

Regarding claim 17, Proctor discloses in **fig. 1** of a wireless CDMA communication system comprising:

generate at each access point **[each base station of fig. 1 generates pilot channels such as a "beacon" as disclosed in col. 2, lines 23-34]** a plurality of pilot bursts for a pilot reference **[each bases station generates a pilot channel having carrier phase and timing relationships as disclosed in col. 2, lines 31-36]**, and

transmitting the plurality of pilot bursts from each access point **[as disclosed in col. 2, lines 23-34, each base station transmits the pilot channels constituting a predetermined pattern]**.

Proctor disclose that pilot channels include timing relationships, but *explicitly fails to disclose of each access point configured to receive one or more signals indicative of a time reference for a communication system for the communication system, which enables pilot bursts to be in synchronization with the time reference for transmitting of the pilot bursts.*

Seta teaches of time synchronization method in CDMA system. Seta discloses in **fig. 1 and in col. 3, lines 35-45 of a GPS Satellite constellation**, which provides the base station controller with a GPS receiver for receiving reference time signal it generates. **The base station, then receives from the base station controller a time reference for the communication system as disclosed in col. 3, lines 35-45 and col. 6, lines 18-24. Seta further illustrates in fig. 1 and discloses in col. 4, lines 60 to col. 5, lines 7 of the base stations 2 and 3 communicating with each of the plurality of user terminal (cell/mobile telephones) deployed in the respective areas and are in synchronization/control of base station controller 1.** Since, the base stations within the CDMA system as mentioned, receive timing references from the GPS satellite constellation via BSC clearly implies that each beacon (having timing relationship) that the base station generates/transmits is synchronized with the received timing reference (of the GPS Satellite).

Therefore, it would have been obvious to one of ordinary skills in the art to modify the teachings of Proctor to include the feature of base station receiving via BSC from the GPS satellite constellation reference time signal for enabling synchronization as taught by Seta. One is motivated as such in order to stipulate the phase offset of the pilot PN sequences, enabling reduction in co-interference among pilots and enabling a mobile terminal to identify and synchronize with the respective base station it is wirelessly connected to (Seta, col. 1, lines 24-54).

Regarding claim 3, Proctor discloses in col. 2, lines 23-36 wherein the plurality of pilot bursts [each beacon] from each transmission source [each base station] are transmitted at

predetermined time intervals [pilot channels such as beacon is transmitted from the base stations having a predetermined pattern and include timing relationship as in col. 2, lines 23-36].

Regarding claim 6, Proctor discloses in col. 2, lines 31-36 further comprising: withholding data transmission at each access point during transmission of the pilot bursts [the pilot channel carries no information (data information)] as claim.

Regarding claim 7, Proctor discloses in col. 2, lines 35-45 and col. 3, lines 13-19 further comprising:

processing at each transmission source pilot data in accordance with a particular processing scheme such that the pilot reference from each transmission source is differentiated from pilot references from other transmission sources [as disclosed in col. 2, lines 35-45 and col. 3, lines 13-19, neighboring base station transmit the CDMA code using predetermined delay offset ensuring a differentiated pilot reference form other transmission sources] as claim.

Regarding claim 8, Proctor discloses in col. 4, lines 49-62 wherein the processing at each transmission comprises: spreading the pilot data with a pseudo-noise (PN) sequence at a particular offset that is different from offsets for other transmission sources as claim.

Regarding claim 9, Proctor discloses in col. 2, lines 31-36 further comprising: continuing transmission of the plurality of pilot bursts from a particular transmission source even if no data is to be transmitted from the transmission source as claim.

Regarding claim 15, Proctor fails disclose wherein the one or more signals used to derived the time reference for the communication system are received from a Global Positioning System (GPS) satellite constellation. Seta discloses in fig. 1 and in col. 3, lines 35-45 of a GPS Satellite constellation, which provides the base station controller with a GPS receiver for receiving reference time signal it generates Therefore, it would have been obvious to one of ordinary skills in the art to modify the teachings of Proctor to include the feature of base station receiving via BSC from the GPS satellite constellation reference time signal for enabling synchronization as taught by Seta. One is motivated as such in order to stipulate the phase offset of the pilot PN sequences, enabling reduction in co-interference among pilots and enabling a mobile terminal to identify and synchronize with the respective base station it is wirelessly connected to (Seta, col. 1, lines 24-54).

Regarding claim 19, Proctor fails to disclose wherein each access point comprises: a Global Positioning System (GPS) receiver configured to receive and process one or more signals from a Global Positioning System (GPS) satellite constellation to provide a signal indicative of the time reference for the communication system. Seta discloses in fig. 1 and in col. 3, lines 35-45 of a GPS Satellite constellation, which provides the base station controller with a GPS receiver for receiving reference time signal it generates Therefore, it would have been obvious to one of ordinary skills in the art to modify the teachings of Proctor to include the feature of base station receiving via BSC from the GPS satellite constellation reference time signal for enabling synchronization as taught by Seta. One is motivated as such in order to stipulate the phase offset of the pilot PN sequences, enabling reduction in co-interference among pilots and enabling a

mobile terminal to identify and synchronize with the respective base station it is wirelessly connected to (Seta, col. 1, lines 24-54).

Regarding claim 20, Proctor discloses generating at each transmission source [each base station of fig. 1 generates pilot channels such as a "beacon" as disclosed in col. 2, lines 23-34] a plurality of pilot bursts for a pilot reference [each bases station generates a pilot channel having carrier phase and timing relationships as disclosed in col. 2, lines 31-36]. Proctor fails to disclose wherein each access point comprises: a controller configured to receive the time reference for the communication system. Seta discloses in fig. 1 and in col. 3, lines 35-45 of a GPS Satellite constellation, which provides the base station controller with a GPS receiver for receiving reference time signal it generates. Each base station, then receives from the base station controller a time reference for the communication system as disclosed in col. 3, lines 35-45 and in col. 6, lines 59-66. Since, the base stations within the CDMA system as mentioned, receive timing references from the GPS satellite constellation via BSC clearly implies that each beacon (having timing relationship) that the base station generates is synchronized with the received timing reference (of the GPS Satellite). Therefore, it would have been obvious to one of ordinary skills in the art to modify the teachings of Proctor to include the feature of base station receiving via BSC from the GPS satellite constellation reference time signal for enabling synchronization as taught by Seta. One is motivated as such in order to stipulate the phase offset of the pilot PN sequences, enabling reduction in co-interference among pilots and enabling a mobile terminal to identify and synchronize with the respective base station it is wirelessly connected to (Seta, col. 1, lines 24-54).

5. Claims 2, 4, 10-14 and 18 rejected under 35 U.S.C. 103(a) as being unpatentable over Proctor, Jr. et al (U.S. Patent No. 6,563,809), hereinafter referred as Proctor in view of Seta (U.S. Patent No. 6,483,825) as applied to claim 1, 3, 6-9, and 15 further in view of Blanchard et al. (U.S. Patent No. 5,862,132), referred hereinafter as Blanchard.

Regarding claim 2, Proctor discloses of transmitting pilot references **[pilot channel-beacon]** from a plurality of transmission sources **[base stations 100-160]**. Proctor in view of Seta fails to disclose wherein pilot bursts from the plurality of transmission sources are aligned in time at the time of transmission. Blanchard discloses in **fig. 1 and in col. 2, lines 41-67** wherein the pilot burst [burst with control information] from the plurality of transmission sources [N transmitters as denoted by reference numbers 2-6 for transmitting burst of data] are aligned in time at the time of transmission [each of the N transmitters receives a signal from timing reference 1 for supplying each of the transmitters with a precise time reference having time knowledge from a GPS System]. Therefore, it would have been obvious to one of ordinary skills in the art to modify the teachings of Proctor in view of Seta to include the feature of base station receiving via BSC from the GPS satellite constellation reference time signal for enabling synchronization as taught by Blanchard. One is motivated as such in order to provide efficient use of frequency spectrum while supporting a large number of transmitters sharing a common frequency band by having all transmitters synchronized to a common time reference *(Blanchard, col. 1, lines 6-12)*.

Regarding claim 4, Proctor discloses in col. 2, lines 31-36 that each pilot channel is a beacon constituent a data signal having a predetermined pattern. Proctor in view of Seta, however, explicitly fails to disclose wherein each of the plurality of pilot bursts has a predefined width. Blanchard discloses in col. 4, lines 27-30 that a burst is 32 bits in width. Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention to modify the teachings of Proctor in view of Seta to disclose the width of each of the plurality of bursts as taught by Blanchard. One is motivated as such in order to prevent overlap between messages.

Regarding claim 10, Proctor in view of Seta fails to disclose wherein transmission from each transmission source occurs over slots, and wherein each slot covers a particular time period and includes a particular number of pilot bursts. Blanchard discloses in fig. 3 and 4 wherein transmission from each transmission source occurs over slot [N time slots], and wherein each slot covers a particular time period and includes a particular number of pilot bursts [each user is assigned a slot number, frame position number and an interval number, in particular, the time slot number defines which slot within a frame the user will transmit, the frame position number defines the first frame in which the user will transmit and the interval number defines the number of frames between transmission as disclosed in col. 3, lines 40 to col. 4, lines 20]. Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention in order to modify the teachings of Proctor in view of seta to include the teachings of transmission occurs

over slots as taught by Blanchard in order to for different user to have the ability to transmit data at different and rates.

Referring to claim 11, Proctor in view of Seta fails to disclose wherein each slot includes two pilot bursts. Blanchard discloses column 3, lines 40 to column 4, lines 55 that each slot may have two pilot bursts, if a user B was assigned the slot number of 2, a frame number of 1 and an interval number of 2, user B would transmit in the time slots as denoted with the letter B in superframe 40 and, thus, would transmit M/2 times per superframe as claim. Also, as disclosed in column 4, lines 44-55, TDMA burst 50 is shorter in duration than the time interval for each slot (Ts), whereby no transmission occurs for some time interval after the transmission of the TDMA burst and before the beginning of the next time slot, indicating that a timeslot may include 2 pilot bursts, one may be longer and the other may last until the time slot ends. In addition, the communication system of Blanchard's invention has the capability of assigning difference users more transmission bandwidth based upon their needs through the above-described superframe allocation. Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention in order to modify the teachings of Proctor in view of seta to include the claimed featured teachings as taught by Blanchard in order to for different user to have the ability to transmit data at different and rates.

Referring to claim 12, Proctor in view of Seta fails to disclose wherein each pilot burst is associated with a respective portion of the slot and positioned in the center of the associated portion. Blanchard discloses in column 3, lines 40 to column 4, lines 20 wherein each pilot burst

(data bursts) is associated with a respective portion of the slot (time slot number) and positioned in the center of the associated portion (frame position number). Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention in order to modify the teachings of Proctor in view of seta to include the claimed teachings as taught by Blanchard in order to for different user to have the ability to transmit data at different and rates.

Referring to claim 13, Proctor in view of Seta fails to disclose padding both sides of each pilot burst in an idle slot with additional transmissions of at least a particular minimum period. Blanchard discloses in column 4,lines 21-61 of padding both sides of each pilot burst in an idle slot with additional transmissions of at least a particular minimum period (TDMA burst 50 includes f bits of fill as denoted by block 56 whereby the f bits of fill are used to allow some time for the receiver between the p bits of preamble and the message bits to follow, the number of fill bits is selected considering the receiver processing time requirements and burst efficiency). Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention in order to modify the teachings of Proctor in view of seta to include the claimed teachings by Blanchard in order to for different user to have the ability to transmit data at different and rates.

Referring to claim 14, Proctor in view of Seta fails to disclose transmitting immediately on both sides of each pilot burst to ensure that the pilot burst is received at or near its steady state value. Blanchard discloses in claim 13 and in figure 1 of transmitting immediately on both sides of each pilot burst to ensure that the pilot burst is received at or near its steady state value (a

plurality of transmitters each coupled to the timing reference, for transmitting bursts of data at precise times and time intervals at a predetermined frequency and permitting more than one of the plurality of transmitters to transmit at the same time, ensuring that the pilot bursts are transmitted and received on both sides at a steady state value based on the synchronization with GPS). Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention in order to modify the teachings of Proctor in view of seta to include the claimed feature as taught by Blanchard in order to for different user to have the ability to transmit data at different and rates.

Regarding claim 18, Proctor in view of Seta fails to disclose wherein pilot bursts from the plurality of access points are aligned in time at the time of transmission. Blanchard discloses in **fig. 1 and in col. 2, lines 41-67** wherein the pilot burst [burst with control information] from the plurality of transmission sources [N transmitters as denoted by reference numbers 2-6 for transmitting burst of data] are aligned in time at the time of transmission [each of the N transmitters receives a signal from timing reference 1 for supplying each of the transmitters with a precise time reference having time knowledge from a GPS System]. Therefore, it would have been obvious to one of ordinary skills in the art to modify the teachings of Proctor in view of Seta to include the feature of base station receiving via BSC from the GPS satellite constellation reference time signal for enabling synchronization as taught by Blanchard. One is motivated as such in order to provide efficient use of frequency spectrum while supporting a large number of transmitters sharing a common frequency band by having all transmitters synchronized to a common time reference *(Blanchard, col. 1, lines 6-12)*.

6. Claims 5 and 21 rejected under 35 U.S.C. 103(a) as being unpatentable over Proctor, Jr. et al (U.S. Patent No. 6,563,809), hereinafter referred as Proctor in view of Seta (U.S. Patent No. 6,483,825) and further in view of Kanterakis et al. (U.S. Patent No. 6,574,267), hereinafter referred as Kanterakis.

Regarding claim 5, Proctor in view of Seta discloses all the limitations set forth in the independent claim. Proctor in view of Seta fails to disclose wherein each pilot burst is transmitted at or near a maximum transmit power level of the transmission source. Kanterakis discloses in claims 26 and 28 and respective portions of the specification when transmitting the preamble (pilot burst) and listening for an acknowledgement a plurality of times, the power should be successively maximized if no acknowledgment corresponding to any of the preamble transmissions are received. Thus, if no acknowledgement is being received there may be too much interference, transmitting pilot burst while successively increasing power reduces interference. *Proctor in view of Blanchard fails to explicitly disclose that the processor coupled to the RM module may be a modem block coupled to the RF module for recovering signals.* Eggleston discloses in fig. 2 of a receiver modem 202 coupled to the RM module within a mobile device capable of modulating/demodulating data for transmission over an RF link. Thus, modem is used to demodulate or recover a plurality of pilot references transmitted from a plurality of transmitters or access point. Therefore, it would have been obvious to one of ordinary skills in the art to modify the teachings of Proctor in view of Blanchard to include a

modem coupled to a RF module as taught by Eggleston. One is motivated as such in order to demodulate transmission data over and RF link.

Regarding claim 21, Proctor in view of Seta discloses all the limitations set forth in the independent claim. Proctor in view of Seta fails to disclose wherein each pilot burst is transmitted at or near a maximum transmit power level of the transmission source. Kanterakis discloses in claims 26 and 28 and respective portions of the specification when transmitting the preamble (pilot burst) and listening for an acknowledgement a plurality of times, the power should be successively maximized if no acknowledgment corresponding to any of the preamble transmissions are received. Thus, if no acknowledgement is being received there may be too much interference, transmitting pilot burst while successively increasing power reduces interference. Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the teachings of Proctor in view of Seta to include the teaching of maximizing the power level during transmission of pilot bursts as taught by Kanterakis in order to reduce interferences from other pilot transmissions.

7. Claims 16 rejected under 35 U.S.C. 103(a) as being unpatentable over Proctor, Jr. et al (U.S. Patent No. 6,563,809), hereinafter referred as Proctor in view of Blanchard (U.S. Patent No. 5,862,132).

Regarding claim 16, Proctor discloses in **fig. 1 of a wireless CDMA communication system**, and discloses in **col. 2, lines 23-34 and in fig. 1** of a method for transmitting pilot

references [**pilot channel-beacon**] from a plurality of transmission sources [**base stations 100-160**], the method comprising:

generating at each transmission source [**each base station of fig. 1 generates pilot channels such as a "beacon" as disclosed in col. 2, lines 23-34**] a plurality of pilot bursts for a pilot reference [**each bases station generates a pilot channel having carrier phase and timing relationships as disclosed in col. 2, lines 31-36**], and

transmitting the plurality of pilot bursts from each transmission source [**as disclosed in col. 2, lines 23-34, each base station transmits the pilot channels constituting a predetermined pattern**].

Proctor disclose that pilot channels include timing relationships, but *explicitly fails to disclose:*

processing the one or more received signals to derive a time reference for the communication system;

wherein the pilot bursts are in synchronization with the time reference for transmitting of the pilot bursts; and

wherein pilot bursts from the plurality of transmission sources are aligned in time at the time of transmission.

Blanchard discloses that at each transmission source [transmitters 2-6] receiving one or more signals from a GPS constellation [as disclosed in col. 2, lines 40-51], processing the one or more received signals to derive a time reference for the communication system [as disclosed in col. 2, lines 40-67, each of the N transmitters receives a signal from timing reference 1 for supplying each of the transmitters with a

precise time reference having time knowledge], generating a plurality of pilot bursts for a pilot reference, wherein the pilot bursts are in synchronization with the time reference and transmit plurality of burst at predetermined time intervals [timing reference 1 allows each of the transmitters to transmit burst of data at precise time and for precise time intervals as disclosed in claims 1, 13 and in col. 2, lines 40-67, since, the transmitters have received signal of the timing references from the GPS constellation, this clearly implies that each burst (having timing relationship) that the base station transmits is synchronized with the received timing reference (of the GPS constellation).] and transmitting the plurality of pilot bursts form each transmission source are aligned in time at the time of transmission [each of the N transmitters 2-6 transmit their information bursts of data to M receivers as denoted by reference number 8-12 as disclosed in col. 2, lines 65-67].

Blanchard TDMA bursts suggests of being a pilot burst since as disclosed in col. 3, lines 10-27 that such burst includes control information-pilot identifying its specific locations as well as other control messages.

Therefore, it would have been obvious to one of ordinary skills in the art to modify the teachings of Proctor to include the feature of base station receiving via BSC from the GPS satellite constellation reference time signal for enabling synchronization as taught by Blanchard. One is motivated as such in order to provide efficient use of frequency spectrum while supporting a large number of transmitters sharing a common frequency band by having all transmitters synchronized to a common time reference *(Blanchard, col. 1, lines 6-12)*.

8. Claims 22 and 23 rejected under 35 U.S.C. 103(a) as being unpatentable over Proctor, Jr. et al. (U.S. Patent No. 6,563,809) in view of Blanchard (U.S. Patent No. 5,862,132) and further in view of Eggleston et al. (U.S. Patent No. 5,764,899), herein after referred as Eggleston.

Regarding claim 22, Proctor discloses in **fig. 1** of an access terminal **[MS 170, fig. 1]** for use in a wireless communication system **[Wireless CDMA communication system 100, fig. 1]**, comprising:

an RF module configured to receive a modulated signal over a wireless communication link **[receiving via RF antenna module within the MS 170 as illustrated in fig. 1]** and to condition the received signal to generate a conditioned signal **[as disclosed in col. 3, lines 12-32, each received pilot signal is ranked based on RSSI, BER and E/I measurements implying that a signal strength condition is generated based on the respective measurements]**; and

receiver **[receiving via RF antenna module within the MS 170 as illustrated in fig. 1]** for receiving a pilot burst **[as disclosed col. 2, lines 23-34 and in fig. 1, a mobile station receives from plurality of base stations pilot channel thought of as a beacon]**; and the mobile station receiver is configured to process the conditioned signal to recover a plurality of pilot references transmitted from a plurality of access point **[as disclosed in col. 3, lines 7-37, upon receiving the pilot beacon channels from the base station, the mobile station ranks the quality of detected pilot channels based upon some combination of RSSI, BER and E/I measurements]**.

Proctor fails to disclose wherein the pilot reference from each access point is transmitted in pilot bursts that are synchronized with a system time reference and wherein the pilot burst from the plurality of access point are aligned in time of transmission.

Blanchard discloses of a processor block 14-18 coupled to the RF module (receivers 8-12) and configured to process the conditioned signal to recover a plurality of pilot references transmitted from a plurality of access point **[processors 14-18 may be used to determine what information has been transmitted by the transmitters 2-6 as disclosed in col. 3, lines 7-27 and fig. 1]**, wherein the pilot reference form each access point **[transmitters 2-6, fig. 1]** is transmitted in pilot bursts that are synchronized with a system time (GPS) reference **[timing reference 1 allows each of the transmitters to transmit a burst of data at precise times and for precise time intervals as disclosed in col. 2, lines 40-67]**. Blanchard TDMA bursts suggests of being a pilot burst since as disclosed in col. 3, lines 10-27 that such burst includes control information-pilot identifying its specific locations as well as other control messages.

Therefore, it would have been obvious to one of ordinary skills in the art to modify the teachings of Proctor to include the feature of base station receiving via BSC from the GPS satellite constellation reference time signal for enabling synchronization as taught by Blanchard. One is motivated as such in order to provide efficient use of frequency spectrum while supporting a large number of transmitters sharing a common frequency band by having all transmitters synchronized to a common time reference *(Blanchard, col. 1, lines 6-12)*.

Proctor in view of Blanchard fails to explicitly disclose that the processor coupled to the RM module may be a modem block coupled to the RF module for recovering signals.

Eggleston discloses in fig. 2 of a receiver modem 202 coupled to the RM module within a mobile device capable of modulating/demodulating data for transmission over an RF link. Thus, modem is used to demodulate or recover a plurality of pilot references transmitted from a plurality of transmitters or access point.

Therefore, it would have been obvious to one of ordinary skills in the art to modify the teachings of Proctor in view of Blanchard to include a modem coupled to a RF module as taught by Eggleston. One is motivated as such in order to demodulate transmission data over and RF link.

Regarding claim 23, Proctor disclose the mobile device is configured to generate samples from the conditioned signal [as disclosed in col. 3, lines 7-37, upon receiving the pilot beacon channels from the base station, the mobile station ranks the quality of detected pilot channels based upon some combination of RSSI, BER and E/I measurements] and Proctor discloses in col. 4, lines 49-62 to despread the samples with a pseudo-noise (PN) sequence at a particular offset for each of the plurality of access points. *Proctor in view of Blanchard fails to explicitly disclose of a modem block coupled to the RF module for recovering signals.* Eggleston discloses in fig. 2 of a receiver modem 202 coupled to the RM module within a mobile device capable of modulating/demodulating data for transmission over an RF link. Thus, modem is used to demodulate or recover a plurality of pilot references transmitted from a plurality of transmitters

or access point. Therefore, it would have been obvious to one of ordinary skills in the art to modify the teachings of Proctor in view of Blanchard to include a modem coupled to a RF module as taught by Eggleston. One is motivated as such in order to demodulate transmission data over and RF link

9. Claims 24-27 and 29-32 rejected under 35 U.S.C. 103(a) as being unpatentable over Proctor, Jr. et al. (U.S. Patent No. 6,563,809) in view of Seta (U.S. Patent No. 6,483,825) and further in view of Tanaka (U.S. Patent No. 5,845,212).

Regarding claim 24, Proctor discloses in fig. 1 of an access terminal **[MS 170, fig. 1]**, comprising:

means **[receiving via RF antenna module within the MS 170 as illustrated in fig. 1]** for receiving a pilot burst [as disclosed **col. 2, lines 23-34 and in fig. 1, a mobile station receives from plurality of base stations pilot channel thought of as a beacon]**; and

determining a link condition based on the pilot **burst [as disclosed in col. 3, lines 7-37, upon receiving the pilot beacon channels from the base station, the mobile station ranks the quality of detected pilot channels based upon some combination of RSSI, BER and E/I measurements].**

Proctor fails to disclose of receiving a pilot reference transmitted in pilot bursts that are synchronized with a time reference.

Seta teaches of time synchronization method in CDMA system. Seta discloses in **fig. 1 and in col. 3, lines 35-45 of a GPS Satellite constellation**, which provides the

base station controller with a GPS receiver for receiving reference time signal it generates. **The base station, then receives from the base station controller a time reference for the communication system as disclosed in col. 3, lines 35-45 and col. 6, lines 18-24. Seta further illustrates in fig. 1 and discloses in col. 4, lines 60 to col. 5, lines 7 of the base stations 2 and 3 communicating with each of the plurality of user terminal (cell/mobile telephones) deployed in the respective areas and are in synchronization/control of base station controller 1.** Since, the base stations within the CDMA system as mentioned, receive timing references from the GPS satellite constellation via BSC clearly implies that each beacon (having timing relationship) that the base station generates/transmits is synchronized with the received timing reference (of the GPS Satellite). One is motivated as such in order to stipulate the phase offset of the pilot PN sequences, enabling reduction in co-interference among pilots and enabling a mobile terminal to identify and synchronize with the respective base station it is wirelessly connected to (Seta, col. 1, lines 24-54).

Proctor in view of Seta, however fails to disclose the <u>means</u> within the mobile terminal for performing determining the link condition function.

Tanaka discloses in fig. 3 and in col. 2, lines 22-27 of a mobile stations having a means for measuring a received signal strength indicator and a received signal quality in accordance to the base transmission signal.

Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention for the mobile stations of Proctor in view of Seta to having explicitly included RSSI measurement means as taught by Tanaka. **One is motivated as**

such in order to carry out handover when the mobile station moves form one cell site to another *(Tanaka, col. 1, lines 38*-46).

Regarding claim 25, Proctor discloses of the mobile station being able to determine which access point/base station has the best signal quality based at least on the received pilot burst [as disclosed in col. 3, lines 7-37, upon receiving the pilot beacon channels from the base station, the mobile station ranks the quality of detected pilot channels based upon some combination of RSSI, BER and E/I measurements]. Proctor fails to disclose the <u>means</u> for determining an access point having a best signal quality based at least on the received pilot burst. Tanaka discloses in fig. 3 and in col. 2, lines 22-27 of a mobile stations having a means for measuring a received signal strength indicator and a received signal quality in accordance to the base transmission signal. Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention for the mobile stations of Proctor's reference to having explicitly included RSSI measurement means as taught by Tanaka. One is motivated as such in order to efficiently carry out handover when the mobile station moves form one cell site to another *(Tanaka, col. 1, lines 38*-46).

Regarding claim 26, Proctor discloses of the mobile station being able to determine which access point/base station has the SNR, best signal quality and bit error rate based at least on the received pilot burst [as disclosed in col. 1, lines 37-40 and col. 3, lines 7-37, upon receiving the pilot beacon channels from the base station, the mobile station ranks the quality of detected pilot channels based upon some combination of RSSI, BER and E/I measurements].

Proctor fails to explicitly further comprising: <u>means</u> for determining a highest data rate supported by the access point. Tanaka discloses in fig. 3 and in col. 2, lines 22-27 of a mobile stations having a means for measuring a received signal strength and signal quality (rate) indicator and a received signal quality in accordance to the base transmission signal. Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention for the mobile stations of Proctor's reference to having explicitly included RSSI measurement means as taught by Tanaka. One is motivated as such in order to carry out handover when the mobile station moves form one cell site to another *(Tanaka, col. 1, lines 38*-46).

Regarding claim 27, Proctor discloses in col. 2, lines 31-36 wherein the pilot burst is received having a predetermined pattern, which implies a predetermined burst width and a predetermined interval. Proctor further discloses in col. 4, lines 54-63 of IS-95 cellular system transmitting plot channels. According to the IS-95 standard, it is defined that each base station transmits a pilot channel message spread with PN codes known to all the mobile stations as claim.

Regarding claim 29, Proctor discloses in col. 2, lines 31-36 wherein no user-specific data [no information data] is received with the pilot burst [beacon] at the predetermined interval [predetermined pattern] as claim.

Regarding claim 30, Proctor discloses in col. 4, lines 51-63 wherein multiple pilot bursts from different access points are synchronized [as disclosed in col. 4, lines 51-63, adjacent base

stations transmit pilot channels that are shifted with respect to each other by an integer multiple of 64 pilot code chips].

Regarding claim 31, Proctor discloses in fig. 1 of a mobile station 170 having a means for receiving (via RF antenna) comprises: means (via RF antenna) for receiving a plurality of pilot bursts from different access points [as disclosed in col. 2, lines 31-36] as claim.

Regarding claim 32, Proctor discloses in col. 1, lines 37-40 of the mobile device being able to measure the SNR of the pilot channel. The carrier-to-interference ratio is the ratio of the carrier signal power to the sum of all other signals received at the same frequency. The carrier-to-interference ratio represents a measure of signal-to-noise that serves as quality indicator equally well for (code-division multiple access) CDMA system and (time-division multiple access) TDMA system. Proctor further discloses in col. 3, lines 20-32, that upon receiving such measurement, the mobile station is able to rank the received pilot signals based on such measurements. This clearly implies that the ranking of SNR is performed a processor within the mobile terminal enabling estimation of best to worst SNR.

10. Claims 28 rejected under 35 U.S.C. 103(a) as being unpatentable over Proctor, Jr. et al (U.S. Patent No. 6,563,809), hereinafter referred as Proctor in view of Tanaka as applied to claims 24-27 and 29-32, further in view of Kanterakis et al. (U.S. Patent No. 6,574,267), hereinafter referred as Kanterakis.

Regarding claim 28, Proctor in view of Tanaka discloses all the limitations set forth in the independent claim. Proctor in view of Seta fails to disclose wherein each pilot burst is transmitted at or near a maximum transmit power level of the transmission source. Kanterakis discloses in claims 26 and 28 and respective portions of the specification when transmitting the preamble (pilot burst) and listening for an acknowledgement a plurality of times, the power should be successively maximized if no acknowledgment corresponding to any of the preamble transmissions are received. Thus, if no acknowledgement is being received there may be too much interference, transmitting pilot burst while successively increasing power reduces interference. Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the teachings of Proctor in view of Tanaka to include the teaching of maximizing the power level during transmission of pilot bursts as taught by Kanterakis in order to reduce interferences from other pilot transmissions.

11. Claims 33-35 rejected under 35 U.S.C. 103(a) as being unpatentable over Proctor, Jr. et al (U.S. Patent No. 6,563,809), hereinafter referred as Proctor in view of Eggleston et al. (U.S. Patent No. 5,764,899), hereinafter referred as Eggleston.

Regarding claim 33, Proctor discloses in **fig. 1** of an access terminal **[MS 170, fig. 1]**, comprising:

a modem [inherently within the MS] for receiving a plurality of pilot bursts from different access points **[receiving via RF antenna module within the MS 170 as illustrated in fig. 1]** and a processor [inherent within a terminal for ranking received

pilot signal] for determining a link condition from each pilot burst [**as disclosed in col. 3, lines 12-32, each received pilot signal is ranked based on RSSI, BER and E/I measurements implying that a signal strength condition is generated based on the respective measurements**];

Proctor discloses in **col. 4, lines 51-63** wherein multiple pilot bursts from different access points are synchronized [**as disclosed in col. 4, lines 51-63, adjacent base stations transmit pilot channels that are shifted with respect to each other by an integer multiple of 64 pilot code chips**]. Proctor discloses in col. 2, lines 31-36 that the pilot burst are received at the predetermined interval [predetermined pattern].

Proctor however explicitly fails to disclose the terminal discloses of a processor and a modem for performing the claimed functions.

Eggleston discloses in fig. 2 of a mobile unit 201 in communication with BS 218 and 219 including a modem, processor 206 and memory 211. Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention to modify the teachings of Proctor to explicitly disclose a mobile unit including a processor and memory storage unit as taught by Eggleston. One is motivated as such in order to storing instructions, data and processing programmed instructions.

Regarding claim 34, Proctor discloses in col. 3, lines 5-32 wherein the access terminal recognizes the pilot bursts as pilot references as claim.

Regarding claim 35, Proctor discloses in col. 1, lines 37-40 of the mobile device being able to measure the SNR of the pilot channel. The carrier-to-interference ratio is the ratio of the carrier signal power to the sum of all other signals received at the same frequency. The carrier-to-interference ratio represents a measure of signal-to-noise that serves as quality indicator equally well for (code-division multiple access) CDMA system and (time-division multiple access) TDMA system. Proctor further discloses in col. 3, lines 20-32, that upon receiving such measurement, the mobile station is able to rank the received pilot signals based on such measurements. This clearly implies that the ranking of SNR is performed a processor within the mobile terminal enabling estimation of best to worst SNR.

12. Claims 36-37, 39, and 41-44 rejected under 35 U.S.C. 103(a) as being unpatentable over Proctor, Jr. et al (U.S. Patent No. 6,563,809), hereinafter referred as Proctor in view of Seta (U.S. Patent No. 6,483,825) and further of Eggleston et al. (U.S. Patent No. 5,764,899), hereinafter referred as Eggleston.

Regarding claim 36, Proctor discloses in **fig. 1** of an access terminal **[MS 170, fig. 1] comprising:**

a first set of computer-readable instruction for receiving a pilot burst **[as disclosed col. 2, lines 23-34 and in fig. 1, a mobile station receives from plurality of base stations pilot channel thought of as a beacon]**; and

a second set of computer-readable instructions for determining a link condition based on the pilot burst **[as disclosed in col. 3, lines 12-32, each received pilot signal is**

ranked based on RSSI, BER and E/I measurements implying that a signal strength condition is generated based on the respective measurements];

Proctor inherently teaches of a processor since a processor is need for ranking the signal strength measurements and inherently teaches of a memory unit since the measurements are stored in order to provide the ranks upon measurement.

Proctor fails to disclose of receiving a pilot reference transmitted in pilot bursts that are synchronized with a time reference.

Seta teaches of time synchronization method in CDMA system. Seta discloses in **fig. 1 and in col. 3, lines 35-45 of a GPS Satellite constellation**, which provides the base station controller with a GPS receiver for receiving reference time signal it generates. **The base station, then receives from the base station controller a time reference for the communication system as disclosed in col. 3, lines 35-45 and col. 6, lines 18-24. Seta further illustrates in fig. 1 and discloses in col. 4, lines 60 to col. 5, lines 7 of the base stations 2 and 3 communicating with each of the plurality of user terminal (cell/mobile telephones) deployed in the respective areas and are in synchronization/control of base station controller 1.** Since, the base stations within the CDMA system as mentioned, receive timing references from the GPS satellite constellation via BSC clearly implies that each beacon (having timing relationship) that the base station generates/transmits is synchronized with the received timing reference (of the GPS Satellite). One is motivated as such in order to stipulate the phase offset of the pilot PN sequences, enabling reduction in co-interference among pilots and enabling a

mobile terminal to identify and synchronize with the respective base station it is wirelessly connected to (Seta, col. 1, lines 24-54).

Proctor in view of Seta however explicitly fails to disclose the terminal disclose of a processor and a memory storage unit for storing the claimed functions.

Eggleston discloses in fig. 2 of a mobile unit 201 in communication with BS 218 and 219 including a processor 206 and memory 211. Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention to modify the teachings of Proctor in view of Seta to explicitly disclose a mobile unit including a processor and memory storage unit as taught by Eggleston. One is motivated as such in order to storing instructions, data and processing programmed instructions.

Regarding claim 37, Proctor discloses in col. 3, lines 7-37 of a set of computer-readable instructions for determining an access point having a best signal quality based at least on the received pilot burst [as disclosed in col. 3, lines 7-37, upon receiving the pilot beacon channels from the base station, the mobile station ranks the quality of detected pilot channels based upon some combination of RSSI, BER and E/I measurements]. *Proctor however explicitly fails to disclose the terminal disclose of a memory storage unit for storing the claimed functions.* Eggleston discloses in fig. 2 of a mobile unit 201 in communication with BS 218 and 219 including a processor 206 and memory 211 having multiple storage elements. Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention to modify the teachings of Proctor to explicitly disclose a mobile unit including a processor and

memory storage unit as taught by Eggleston. One is motivated as such in order to storing instructions, data and processing programmed instructions.

Regarding claim 39, Proctor discloses in col. 2, lines 31-36 wherein the pilot burst is received having a predetermined pattern, which implies a predetermined burst width and a predetermined interval. Proctor further discloses in col. 4, lines 54-63 of IS-95 cellular system transmitting plot channels. According to the IS-95 standard, it is defined that each base station transmits a pilot channel message spread with PN codes known to all the mobile stations as claim.

Regarding claim 41, Proctor discloses in col. 2, lines 31-35 wherein no user-specific data [the pilot channel typically carries no information] is received with the pilot burst at the predetermined interval [predetermined pattern] as claim.

Regarding claim 42, Proctor discloses in col. 4, lines 51-63 wherein multiple pilot bursts from different access points are synchronized [as disclosed in col. 4, lines 51-63, adjacent base stations transmit pilot channels that are shifted with respect to each other by an integer multiple of 64 pilot code chips].

Regarding claim 43, Proctor discloses in fig. 1 of a mobile station 170 having a means for receiving (via RF antenna) comprises: means (via RF antenna) for receiving a plurality of pilot bursts from different access points [as disclosed in col. 2, lines 31-36]. Proctor fails to explicitly

disclose of the memory storage unit further storing instructions of the mentioned function. Eggleston discloses in fig. 2 of a mobile unit 201 in communication with BS 218 and 219 including a processor 206 and memory 211 having multiple storage elements. Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention to modify the teachings of Proctor to explicitly disclose a mobile unit including a processor and memory storage unit as taught by Eggleston. One is motivated as such in order to storing instructions, data and processing programmed instructions.

Regarding claim 44, Proctor discloses in col. 1, lines 37-40 of the mobile device being able to measure the SNR of the pilot channel. The carrier-to-interference ratio is the ratio of the carrier signal power to the sum of all other signals received at the same frequency. The carrier-to-interference ratio represents a measure of signal-to-noise that serves as quality indicator equally well for (code-division multiple access) CDMA system and (time-division multiple access) TDMA system. Proctor further discloses in col. 3, lines 20-32, that upon receiving such measurement, the mobile station is able to rank the received pilot signals based on such measurements. This clearly implies that the ranking of SNR is performed a processor within the mobile terminal enabling estimation of best to worst SNR. Proctor fails to explicitly disclose the memory storage unit further storing of measurement. Eggleston discloses in fig. 2 of a mobile unit 201 in communication with BS 218 and 219 including a processor 206 and memory 211 having multiple storage elements. Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention to modify the teachings of Proctor to explicitly disclose a mobile unit including a processor and memory storage unit as taught by Eggleston.

One is motivated as such in order to storing instructions, data and processing programmed instructions.

13. Claims 38 rejected under 35 U.S.C. 103(a) as being unpatentable over Proctor, Jr. et al (U.S. Patent No. 6,563,809), hereinafter referred as Proctor and Seta in view of Eggleston as applied to claims 36, 37, 39, and 41-44, further in view of Tanaka (U.S. Patent No. 5,845,212).

Regarding claim 38, Proctor discloses of the mobile station being able to determine which access point/base station has the SNR, best signal quality and bit error rate based at least on the received pilot burst [as disclosed in col. 1, lines 37-40 and col. 3, lines 7-37, upon receiving the pilot beacon channels from the base station, the mobile station ranks the quality of detected pilot channels based upon some combination of RSSI, BER and E/I measurements]. Proctor fails to disclose of the memory storage unit further storing for determining a highest data rate supported by the access point. Tanaka discloses in fig. 3 and in col. 2, lines 22-27 of a mobile stations having a means for measuring received signal strength and signal quality (rate) indicator and a received signal quality in accordance to the base transmission signal. Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention for the mobile stations of Proctor's reference to having explicitly included RSSI measurement means as taught by Tanaka. One is motivated as such in order to carry out handover when the mobile station moves form one cell site to another (Tanaka, col. 1, lines 38-46).

14. Claims 40 rejected under 35 U.S.C. 103(a) as being unpatentable over Proctor, Jr. et al (U.S. Patent No. 6,563,809), hereinafter referred as Proctor and Seta in view of Eggleston as

applied to claims 36, 37, 39, and 41-44, further in view of Kanterakis et al. (U.S. Patent No. 6,574,267), hereinafter referred as Kanterakis.

Regarding claim 40, Proctor in view of Eggleston discloses all the limitations set forth in the independent claim. Proctor in view of Seta fails to disclose wherein each pilot burst is transmitted at or near a maximum transmit power level of the transmission source. Kanterakis discloses in claims 26 and 28 and respective portions of the specification when transmitting the preamble (pilot burst) and listening for an acknowledgement a plurality of times, the power should be successively maximized if no acknowledgment corresponding to any of the preamble transmissions are received. Thus, if no acknowledgement is being received there may be too much interference, transmitting pilot burst while successively increasing power reduces interference. Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the teachings of Proctor in view of Eggleston to include the teaching of maximizing the power level during transmission of pilot bursts as taught by Kanterakis in order to reduce interferences from other pilot transmissions.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chirag G. Shah whose telephone number is 571-272-3144. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 571-272-7682. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

cgs
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